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1 RECORD OF ORAL HEARING

2
3 UNITED STATES PATENT AND TRADEMARK OFFICE

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6 BEFORE THE BOARD OF PATENT APPEALS
7 AND INTERFERENCES
8

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10 Ex parte BRIAN J. SCHWARTZ, ROBERT N. DAVIE, JR.,
11 BERNARD D. VAILLETTE, JON C. HAMMETT,
12 ALLAN B. PACKMAN, TIMOTHY L. BROWN,
13 and JAMES D. CAMPBELL, JR.
14

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16 Appeal 2008-4545
17 Application 10/618,059
18 Technology Center 3700
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21 Oral Hearing Held: February 12, 2009
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25 Before JENNIFER D. BAHR, MICHAEL W. O'NEILL, and STEFAN
26 STAIVOVICI, Administrative Patent Judges
27

28
29 ON BEHALF OF THE APPELLANT:
30

31 WILLIAM SLATE, ESQUIRE
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35

36 The above-entitled matter came on for hearing on Thursday, February
37 12, 2009, commencing at 9:00 a.m., at the U.S. Patent and Trademark
38 Office, 600 Dulany Street, Alexandria, Virginia, before Lori B. Allen,
39 Notary Public.

PROCEEDINGS

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JUDGE BAHR: You may proceed.

MR. SLATE: I'd first like to thank you for the courtesy of the telephonic participation. It has become increasingly difficult to get down to D.C. given the change in air travel post 9/11.

I'd like to start with some brief comments in three areas and then get deeper into the substance.

The first comments are regarding the claimed invention, and then some comments regarding the nature of the rejections, and then some comments regarding the references, and then finally I'll be getting into the meat.

As in most applications, there are claims of various levels of detail and reflecting combinations of elements and various approach directions, so there may be different rationales applied to the patentability or un-patentability of any given claim.

However, at a very detailed level, we're talking about the field of super abrasive machining as is used in the aerospace industry. In such machining, an elongate abrasive bit is used to machine the features of a part that's being manufactured, a part of a gas engine, for example.

The present inventors have designed a high coverage coolant nozzle and used the technique of selective laser sintering to efficiently manufacture that nozzle.

By "high coverage," we're talking about high circumferential coverage around the nozzle so as to have full coverage really no matter how the orientation is relative to the part being machined.

1 The rejections generally reflect a failure to undertake the fact findings
2 required by *Graham vs. John Deere*, and then a failure to really articulate all
3 the necessary elements of a proper *prima facie* case.

4 In general, we have something that resembles more of a hindsight
5 reconstruction. I say “resembles” because when one uses the word
6 “reconstruction,” that implies that there has been articulated a level of detail
7 more than has been articulated here.

8 We really haven’t had articulated any identification of what the
9 reconstructed apparatus is. Here, the reconstruction tends to be one more of
10 words rather than reconstructing the actual apparatus. The meaning of some
11 words are ignored with unreasonable interpretation depriving these words or
12 elements of all meaning.

13 Other words appear found by hindsight key word search. However,
14 the Office has not then articulated how the elements represented by those
15 words are confined, let alone why.

16 For elements that aren’t so asserted via key word search, there appear
17 to be merely conclusory assertions of obviousness that are not supported by
18 any evidence.

19 Finally, turning to the three references, and representative figures
20 from each of these references are shown in the appendix, the first reference
21 is the German reference, DE’396. That shows a polishing disk, polishing the
22 edges of flat glass panels. There is an accompanying nozzle that is used
23 with that.

24 The second reference is a little more closer in field and that’s
25 Reitmeyer. Reitmeyer discloses a nozzle that’s attached to a die grinder type
26 apparatus, used in the metal forming industry.

1 The Reitmeyer nozzle is a machined metallic assembly, and I mean by
2 “assembly,” assembled from a number of parts, and has a small number of
3 outlets in a small radial sector. As I discussed above, in various of our
4 claims, we identify elements of full radial coverage and elements of the
5 materials that are used and the construction, the sintered materials
6 construction, et cetera.

7 The final of the three references cited is Perkins, et al. That is a single
8 outlet fan blasting nozzle, having a ceramic core in a metal or plastic casing.
9 The Perkins’ combination appears to reflect considerations particular to fan
10 blasting nozzles and not to coolant nozzles. The ceramic core of Perkins
11 appears chosen for interfacing with the sand blasting medium, which
12 requires abrasion resistance and high temperature resistance.

13 The Office’s citation of Perkins appears to reflect a key word search
14 for the terms “nozzle” and “ceramic,” without then considering what the
15 Perkins’ apparatus is and why it has particular features, and without showing
16 they would relate to the other references and how they would be properly
17 combined.

18 It just appears that the Examiner has found various words. We have a
19 certain claim identifying ceramic material, and this is just a reconstructed
20 search, but the actual apparatus has not been reconstructed, just words have
21 been found.

22 That’s my introductory statement. We can discuss the specific claims
23 and rejections, if you’d like. I don’t know how familiar you are with the
24 claims. We can go through the claims in order or go through the rejections,
25 and I can lead or you can lead.

26 Do you have a preference?

1 JUDGE STAICOVICI: We've had a chance to look through the
2 claims. I notice you list each claim individually. Do you want to go through
3 each one or kind of group them together with major issues?

4 MR. SLATE: Because the case is so deficient procedurally in
5 establishing a prima facie case and there are issues of unreasonable
6 interpretation, I think almost all the claims have to be looked at separately
7 because there are issues of interpretation.

8 If we had a case with more explicit interpretations and evidence
9 regarding them, it would be more likely most of the claims would stand or
10 fall together, but without a clear interpretation by the Office, I think they all
11 have to be looked at separately.

12 JUDGE STAICOVICI: Would you like to start out with the first
13 claim then?

14 MR. SLATE: Sure. We have Claim one, which is an apparatus
15 claim. It identifies the combination claim involving the machine tool, the
16 elongate of the abrasive bit carried by the tool, and the nozzle. You can
17 specify the elements of the nozzle being the sintered body, again, as I
18 mentioned, results from this manufacturing technique, the inlet, and a
19 plurality of coolant outlets.

20 It then specifies the circumferential coverage by stating there is no
21 gap in either circumferential direction between sequentially adjacent ones of
22 the outlet that is more than 72 degrees. That language is a little cumbersome
23 but it resulted from the Examiner giving what we thought were a series of
24 unreasonable interpretations and us attempting to address them.

25 Basically, we are saying there is no gap between the outlets more than
26 72 degrees to identify a certain degree of circumferential coverage.

1 For example, if we look at the Reitmeyer nozzle, you see that has
2 three outlets in a very small narrow center, so that would have what is
3 precluded by this.

4 We also have other elements of internal surface portions, passageways
5 between the inlet and the outlet, and what accommodates the bit.

6 That is subject to several grounds of rejection. The first ground of
7 rejection is Reitmeyer, et al. Again, the Examiner appears to be
8 unreasonably interpreting Reitmeyer.

9 Reitmeyer has got a grinder apparatus. I don't know how he's
10 interpreting that there is no such gap. It seems fairly clear in our
11 identification of Claim one that there is no gap in either circumferential
12 direction, between sequentially adjacent ones with the nozzle more than 72
13 degrees, as shown in our evidence appendix to the Appeal Brief, we have
14 marked the clear gap in Reitmeyer.

15 JUDGE BAHR: But even though Reitmeyer only actually illustrates
16 three outlets, they do teach in column three, line 58 or so, any desired
17 number of such outlet ports can be provided and such outlet ports may be
18 located in any desired positions relative to the tool.

19 MR. SLATE: There are several issues with that, and we can discuss
20 that. One is there is a question of whether that suggests all. For example,
21 clearly there is some reasonable level of modification of Reitmeyer,
22 whatever their angular sector, whether it appears to be about 30 degrees, one
23 could say there might be one that has 20 degrees or one that might have 40
24 degrees or 45 degrees, whatever it ends up being. Actually, it looks like they
25 are a little more than 45.

1 To then go and have potentially full coverage is a fundamentally
2 different thing. It hasn't been established that what we are claiming is
3 within any reasonable realm of obvious modifications.

4 The mere fact that someone says it could be anything does not teach
5 disclosure of all things. That's the first issue.

6 The second issue gets into emphasizing some of the other grounds of
7 rejection or the other claims that are at issue. First of all, number one in
8 Reitmeyer, we don't have a sintered body. Reitmeyer appears to have a
9 machined assembly body. Claim one says a sintered body.

10 Claim two, for example, identifies a single unitary piece. Reitmeyer,
11 even in its limited circumferential extent, is a multiple piece machine. If we
12 look at Figure 2 of Reitmeyer, they have this straight board that's 28, that
13 feeds all three outlets.

14 If you were to somehow tell one of ordinary skill in the art, instruct
15 one of ordinary skill in the art, make a modification of Reitmeyer that has no
16 gap greater than 72 degrees, how are they going to do it?

17 The answer is they'd have to make it much more complex. They
18 would add further parts to it if they would do it. They'd probably have to
19 make other changes.

20 The fact that you might hypothesize a modification of Reitmeyer, it
21 clearly runs directly into some of these independent claims that we have.
22 Even Reitmeyer as is is not a single piece. It is an assembly. It does not
23 meet the Claim one, single piece limitation, and it doesn't meet the sintered
24 body limitation of Claim one. It also does not meet the angular distribution
25 of Claim one. It doesn't meet the single piece of Claim 2. The same could
26 apply to some of the other claims.

1 The Examiner appears -- this is one of several cases where he's just
2 ignoring elements. He says Reitmeyer is a single piece. If Reitmeyer is a
3 single piece, then you deprive the piece of all meaning.

4 In the Reply, we actually cite a case where "single piece" is pretty
5 clearly interpreted as meaning a single piece.

6 JUDGE BAHR: Okay. What about Claim 10 with regard to the
7 Reitmeyer rejection?

8 MR. SLATE: Ten.

9 JUDGE BAHR: Basically relying on the 72 degrees.

10 MR. SLATE: Yes, that's definitely one of them. Again, we have
11 different claims and different levels of detail. That's what that one is
12 identifying. There may be other issues on Claim 10. That's definitely one
13 issue.

14 Even assuming modification of Reitmeyer with any particular bit,
15 that's one clear issue on Claim 10.

16 JUDGE BAHR: Is there anything else you'd like to particularly point
17 out to us?

18 MR. SLATE: Yes. We have in general lots of different issues. The
19 Examiner has basically just chosen in many aspects to ignore limitations.
20 He has not articulated what his combination is and why.

21 I've done a bit of just hindsight reconstruction based upon key word
22 searches, a couple of examples I'd like to give are we have certain claims
23 referencing sintered material. We have certain claims referencing sintered
24 ceramic material. "Ceramic" comes from Perkins.

1 The Examiner just asserts a generalized motivation that it would be
2 obvious to sinter, and I forget what the particular statement was, to improve
3 strength or something to that effect.

4 He hasn't identified that in his combination, what material he is
5 working with, why it would be subject to sintering. Sintering is known in
6 powder metallurgy, dealing with powder metallurgical products. One might
7 expect to sinter something to increase strength.

8 He hasn't articulated here what the material is. Looking at Reitmeyer,
9 that's a machined product. That is stock pieces of material.

10 He also tries to ignore the limitations, that the sintered body was not
11 germane to the issues of patentability, and effectively trying to ignore it as a
12 structural limitation, and we cited In re Arrow, saying why that would be
13 regarded as a structural limitation.

14 Again, it all comes back to failure to articulate a proper prima facie
15 case. Start off with what is the art, what is the person starting with, what
16 modification is he going to make and why, and is there an expectation of
17 success.

18 If you go through it like that, you don't have a lot of these problems.
19 Rather, when you have a bit of a hindsight reconstruction where certain
20 elements are found, other elements are asserted via a key word search, and
21 other elements are either ignored or they are just a conclusory motivation
22 without any support, saying that these things are present.

23 JUDGE STAICOVICI: Is there any particular reason why the
24 claimed invention requires being a sintered body?

1 MR. SLATE: Yes. This is a good point. The manufacturing
2 technique that's being used is selective laser sintering, which is a known
3 technique for rapid prototyping in various industries.

4 If you're looking to make -- if you have a new whatever, mechanic
5 pencil, you rapid prototype it and you get something you can play with, and
6 other things.

7 The inventors have found that by doing selective laser sintering, using
8 what would normally be a rapid prototyping technique, they can make an
9 effective nozzle that can be used for tooling, that allows them to have a very
10 high degree of coverage.

11 Unlike Reitmeyer, they are not having to assemble individual pieces
12 to get each individual outlet. It's like a topography thing. The laser acts on
13 a pool of the material that's being sintered, which can be ceramic or more of
14 a polymeric material, and as the topography sketches out layer by layer, it
15 builds up, the actual nozzle. They are actually using the sintered nozzle that
16 would come from a prototyping situation as an actual nozzle rather than
17 using a prototype, a nozzle that would in turn be made by another process.

18 That's why we are claiming the sintered structure in various
19 claims. That is what they are using. They are not going out and somehow
20 machining it or casting it from other materials.

21 I believe sintered, as we discussed before, is a structural limitation. I
22 didn't want to put in method limitation, like the laser sinter, because that
23 starts getting more into things that you don't see in examining the structure.

24 A sintered body is clearly a structural limitation. Laser
25 sintered, I would regard that as closer to a method. Again, we are not
26 pursuing it in this case.

1 That's why the sintered body is relevant. The only place the
2 Examiner is getting sintered from is on some claims, he's just inferring it,
3 saying it would be obvious to make the material last longer and/or protect it
4 against corrosion.

5 Again, he hasn't specified what the material is that he's starting with.
6 There is no expectation of any deficiency.

7 Starting with Reitmeyer, it's not subject to sintering. It's not
8 sinterable, as far as I know. At the second level, when he brings in Perkins,
9 again, totally different situation, the core of a sand blasting nozzle. No
10 analogy has been established.

11 Again, it hasn't really been articulated how he's combining them. Is
12 he using a ceramic core in a cooling nozzle or what is he doing?
13 Hypothetically, that is an issue with this single piece limitation of Claim
14 two.

15 JUDGE BAHR: You made the statement that you don't think that
16 Reitmeyer's structure is sinterable. Why would you say that?

17 MR. SLATE: Well, sintering is normally going to be of particles.
18 You get sintering, for example, in powder metallurgy, for example, and you
19 compact the metal powder and then you sinter it, which further deforms the
20 particles.

21 There is no basis to assume that the Reitmeyer structure is of such a
22 material that would be susceptible to sintering, let alone why it would need
23 it.

24 In this case, in selective laser sintering, what you do is you have the
25 initial material that's used in the process, and the laser causes the material to
26 sinter. You have the pool of material or the body of the material, the laser

1 scans across only certain areas, and those areas at that level get sintered.
2 The levels that are not contacted by that laser are not sintered, so they
3 remain powdery, and if you go without, you end up moving the sintered
4 body and the powder, the un-sintered powder material can fall out.

5 JUDGE BAHR: I think we understand your position.

6 MR. SLATE: As a general matter, looking through the brief, you'll
7 see we have claims of different detail. We tried working with the Examiner
8 to come to some arrangement, and as evidenced by what looked like some
9 cumbersome mentions that have been made to the claims really to emphasize
10 what the meaning of "is" is on the gap issue.

11 There are claims we would have settled for. Please avoid any attempt,
12 any temptation, to look at this and say okay, well, you know, maybe we
13 would have rejected some claims for another reason and therefore we are
14 going to affirm.

15 Procedurally, this is totally deficient. If you think there is some
16 reason why certain claims might ultimately not be patentable, please feel
17 free to remand with the appropriate instructions to the Examiner.

18 It's pretty clear especially on the detailed claims that the examination
19 is totally substantively deficient and even on the broader claims,
20 procedurally deficient.

21 Reversal and/or remand is proper. I don't want to have the baby split
22 by saying some are affirmed and some are reversed, and putting me in the
23 dilemma of saying on the rejections that were affirmed, because I still think
24 they were proper, do I have to go and request reconsideration and wait for
25 the Board's time. Usually, the total procedural, everything here should be at
26 least abandoned.

1 JUDGE BAHR: We'll have to take each of these rejections and each
2 of these claims one by one, and we will do that.

3 MR. SLATE: Understood. Again, we have some detailed claims.
4 We tried to do the sintered, some reference to ceramic, others don't, because
5 as I mentioned, there are several of the rapid prototyping techniques. The
6 main one does use sintered ceramic, but there is quite an analogous one that
7 sinters technically non-ceramic. The references from the vendor of this
8 prototype and process are all of record.

9 JUDGE BAHR: Okay. Thank you. We'll take this under
10 advisement.

11 JUDGE STAICOVICI: Thank you.

12 MR. SLATE: Thank you.

13 (Whereupon, at approximately 9:30 a.m., the proceedings were
14 concluded.)